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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,272	03/18/2004	Boon Keat Tan	70040133-1	7457

7590 04/17/2007
Avago Technologies, Ltd.
P.O. Box 1920
Denver, CO 80201-1920

EXAMINER

YAM, STEPHEN K

ART UNIT	PAPER NUMBER
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2878

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.	Applicant(s)	
10/804,272	TAN ET AL.	
Examiner	Art Unit	
Stephen Yam	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Amendments and remarks filed on February 1, 2007. Claims 1-12 are currently pending.

Double Patenting

1. Claims 1-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 10/804,286. Although the conflicting claims are not identical, they are not patentably distinct from each other because it is well known in the art to provide a color photodetector in combination with a color filter to detect a color image, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine a color photodetector array with the color filter and method of fabricating the color filter disclosed in claims 1-11 of Application No. 10/804,286, to provide accurate color image detection for a camera or optical scanner.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. US Patent No. 5,648,653 in view of Terashita et al. US Patent No. 5,073,008.

Regarding Claim 3, Sakamoto et al. teach (see Fig. 2) a color sensor, comprising a plurality of photodetectors (6a-6c), a plurality of primary color filters (5c-5e), each primary color filter comprising a layer of material overlying a corresponding one of said photodetectors (see Fig. 2), each primary color filter transmitting light in a corresponding band of wavelengths (see Col. 4, lines 30-32) about a characteristic wavelength (red, green, blue), that primary filter transmitting more light at said characteristic wavelength than that primary color filter transmits at a wavelength outside of said band of wavelengths (see Col. 4, lines 30-32), and a first trim filter (4) overlying all of said photodetectors (see Fig. 2), said first trim filter comprising a layer of material that attenuates light at a first trim wavelength ($<400\text{nm}$ or $>650\text{nm}$ - see Fig. 6-10, 12 and Col. 4, lines 32-35) more than said first trim filter attenuates light at each of two of said characteristic wavelengths (see Fig. 6-10, 12), wherein said first trim filter comprises alternating layers in which adjacent layers have different indices of refraction (see Col. 4, line 57 to Col. 5, line 12) and is an interference filter (see Col. 4, lines 32-35, 57-62 and Col. 5, lines 38-48). Sakamoto et al. do not teach the alternating layers as dielectric layers. Terashita et al. teach (see Fig. 1A, 7, 8) a similar device with a first trim filter (10b/71b) as an interference filter comprising alternating dielectric layers (see Col. 1, lines 46-48, Col. 3, lines 64-67, and Col. 6, lines 27-30, 34-42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide dielectric layers as the alternating layers, as taught by Terashita et al., in the device of Sakamoto et al., to adjust the absorption characteristics of the interference filter for a desired optical effect, and since it has been held to be within the general skill of a

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worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

4. Claims 1, 2, and 4-12 would be allowable by overcoming the provisional double-patenting rejection set forth in this Office Action.

5. The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claims 1 and 9, the invention as claimed, specifically in combination with a plurality of primary color filters transmitting light about a characteristic wavelength, and a filter layer comprising a layer of material that attenuates light at a first trim wavelength more than it attenuates light at each of two of said characteristic wavelengths, wherein said first trim wavelength is between said two of said characteristic wavelengths, is not disclosed or made obvious by the prior art of record.

Response to Arguments

6. Applicant's arguments filed February 1, 2007 have been fully considered but they are not persuasive.

Regarding Applicant's arguments to the double patenting rejection, Applicant argues that Examiner had not pointed to any motivation supported by the prior art of record for combining the specific filters in Claims 1-11 of the co-pending application with the color sensor or color sensor fabrication methods of the current invention. Examiner asserts that motivation was

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provided in the double patenting rejections in both the previous and current Office Actions to combine a color photodetector array with the claimed color filter, in order to provide accurate color image detection for a camera or optical scanner. Since Applicant has already asserted that benefits exist for providing conventional filters for color sensors ("... provides any benefits beyond those provided by the conventional filters used in photodetectors" in Page 5 of Applicant's 2/1/2007 response), such benefits will also apply for combining the filter disclosed in the co-pending application with a color sensor to arrive at the current invention.

7. Applicant's arguments with respect to claim 3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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